

REMARKS

Claims 1-8, 12-23, 25, and 27-30 are pending in this application. Claims 4-6, 13, and 15-19 are withdrawn from consideration. Claims 9-11, 24, and 26 are canceled. No claims are amended by this paper. Applicants reserve the right to pursue original and other claims in this and other applications.

Claims 1, 2, 7, 12, 20, and 27-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,172,955 (“Hashimoto”) in view of U.S. Patent No. 6,463,021 (“Nakane”). Applicant respectfully traverses the rejection.

Claim 1 recites a recording method for recording data in a recording area of an information recording medium that includes “determining whether to perform a defect detection process on at least a portion of the recording area in which the data are recorded based on a predetermined determination criterion pertaining to recording attribute information of data.”

As described in the Specification of the present application, the recited determination allows “high quality recording may be realized while preventing the degradation of the recording performance.” Specification, at ¶ 0036.

The Office Action concedes that Hashimoto fails to disclose such a limitation. Office Action, at 2. Yet the Office Action asserts that:

Nakane discloses determining whether to perform a defect detection process on at least a portion of the recording area in which the data are recorded based on a predetermined determination criterion pertaining to recording attribute information of the data (1, 7, fig. 10 and col. 6 lines 57-65).

Office Action of February 3, 2009 (hereinafter “Office Action”), at 2.

Applicant respectfully asserts that Nakane teaches no such thing. Rather, Nakane merely describes “determining a criteria for detecting defects according to the type of data for which defects are to be detected.” See Nakane, Col.4, lines 54-55 (emph. added). Nakane fails

to teach or suggest “determining whether to perform a defect detection process,” as recited in claim 1.

The Office Action’s citations in response to Applicants previous arguments do not further its assertion. For example, the Office Action cites the following paragraph of Nakane:

By using a less strict criteria for the audio or video data, interruption of the audio or video data recording is avoided unless the defect is of such a degree that the resultant sound or picture is intolerable.

Nakane, Col. 7, ll. 3-6. The Office Action relies on this paragraph as “clearly disclos[ing] that for some data where the less strict criteria is used, defect detection does not occur and recording is not interrupted to process the defect detection steps (i.e. assigning spare areas for the defective area).” Office Action, at 9. Yet this is an incorrect understanding of Nakane. While the different criteria may affect whether defect correction occurs, defect detection occurs regardless.

The Office Action’s misinterpretation is based on a mischaracterization of the purpose of the “criteria” disclosed in Nakane. The criteria are used to detect “primary defects” (i.e., “defects occurring at the time of manufacture of the disk”) or “secondary defects” (i.e., “defects occurring after [the disk] being put to use”). Nakane, Col. 1, ll. 28-30. “Sectors found to have a defect are replaced.” Nakane, Col. 1, ll. 33-34. The first and second criteria of Nakane are thresholds that must be breached for a detected flaw to register as a primary or secondary “defect.” Nakane, Col. 3, ll. 26-32 (“the primary defects are detected and replacement is effected by using a criteria which is more strict than that for detecting the secondary defects, so that some additional scratches or dirt will not results in the finding of a defect according to the criteria for detecting the secondary defects”).

The less-strict criteria (i.e., the “second criteria”) results in less defects being “detected,” and thus corrected by replacement, than the more-strict “first criteria.” See Nakane, Col. 5, ll. 10-12 (“Decision on whether the reproduction is to be re-tried is made using different criteria depending on the type of data being reproduced.”); and Col. 4, ll. 26-34 (“Where the optical disks are used for recording audio or video data, it is considered unnecessary to detect defects with criteria which is as strict as that used in recording computer data. This is because, if

the excessively strict criteria is used, sectors which are permissible for audio or video data are also found defective, and video recording is interrupted when the time-consuming replacement is effected.” Nakane, Col. 4, ll. 30-34 (emph. added).

Thus, the Office’s assertion is incorrect. Nakane does not suggest that “defect detection does not occur and recording is not interrupted to process the defect detection steps,” as asserted in the Office Action. Office Action, at 9 (emph. added). Rather, Nakane suggests that, when less strict criteria is used where appropriate, “sectors which are permissible for audio or video data” are not “also found defective,” and thus video recording is not interrupted because “the time-consuming replacement” is not effected. Nakane, Col. 4, ll. 30-34 (emph. added). It is not the omission of the defect detection steps that avoid undesirable interruption – it is the omission of the “time-consuming replacement” that does so.

The Office Action also relies on Nakane’s statement that “the presence or absence of defect in each sector can be determined ... according to the defect criteria” to support the proposition that “Nakane ... ignores areas having some errors as non-defective areas based on the criteria, and those areas which fail to pass the given criteria are processed as defects with the subsequent defect detection process taking place.” Office Action, at 10 (citing Nakane, Col. 13, ll. 1-4). This assertion cannot stand. If certain areas have already failed “to pass the given criteria” and “are processed as defects,” as asserted in the Office Action, then defect detection has already taken place.

The Office Action also points to “areas containing errors, but do not have enough errors to fail the criteria as ‘defects’” being “ignored.” Office Action, at 10-11 (citing Nakane, Col. 13, ll. 21-26). A more comprehensive understanding is gained from the surrounding paragraphs of the specification that include the Office Action’s citation:

In the case of recording computer data, a high reliability is required so that the data once recorded are not lost or changed. For this reason, verifying reproduction is often effected at the time of recording. Accordingly, during recording and during verification production, the strict criteria A is applied to ensure that the correct data is recorded.

In contrast, in the case of audio or video data, continuous recording at a high transfer rate is required. Accordingly, verifying reproduction is often omitted, ignoring data defects. Even if some defects occur during recording, as long as occurrence of the defects is of such a degree that the defects can be corrected or concealed later at the time of reproduction, it is preferable to continue recording operation ignoring the defects, since it will improve the performance and the operability as a recorder. For this reason, the criteria set for servo defects and header defects are set at a less strict level at which the recorded data can be corrected or concealed.

Nakane, Col. 13, ll. 12-30 (emph. added).

To assert that the cited portion of Nakane teaches not performing defect detection is mistaken. In the relied-upon passage, the criteria used in defect detection is less-strict, but defect detection still occurs. Indeed the defects are only ignored, and the recording operation continued, “as long as occurrence of the defects is of such a degree that the defects can be corrected or concealed later.” To determine the “degree” of “the occurrence of the defects,” and assure that it remains below the criterion, defect detection must be occurring.

Therefore, Applicant respectfully submits that the Office Action’s asserted positions regarding the teachings of Nakane cannot stand, and the asserted combination of references fails to teach or suggest the elements of claim 1. Claims 2, 7, 27, and 28 depend from claim 1, and are allowable over the asserted combination of Hashimoto and Nakane for at least the reasons discussed above, as well as on their own merits.

Claim 12 recites an information recording apparatus comprising, *inter alia*, “determination means for determining after the recording of the data whether to perform a defect detection process on at least a portion of the recording area in which the data are recorded based on recording attribute information of the data.” Applicant respectfully submits that the determination means recited in claim 12 are not taught by the asserted combination.

The Office Action asserts that:

Nakane discloses determination means for determining after the recording of the data whether to perform a defect detection process

on at least a portion of the recording area in which the data are recorded based on recording attribute information of the data (12, fig. 1 and fig. 2 and 10).

As discussed above, Nakane fails to teach or suggest, in any of its embodiments, “determining ... whether to perform a defect detection process,” as recited in claim 12. To the contrary, Nakane merely describes “a defect determining means 12 [that] makes judgment as to whether a sector is defective and is to be replaced.” Nakane, Col. 9, ll. 64-65. The defect determining means 12 of Nakane “determines presence or absence of a defect in accordance with a defect criteria ... and reports the results of the determination to the drive control means.” Nakane, Col. 10, ll. 2-5. Thus, Nakane fails to describe “determination means for determining after the recording of the data whether to perform a defect detection process” as recited in claim 12.

Therefore, Applicant respectfully submits that the asserted combination of references fails to teach or suggest the elements of claim 12. Claims 20, 29, and 30 depend from claim 12, and are allowable over the asserted combination of Hashimoto and Nakane for at least the reasons discussed above, as well as on their own merits. Accordingly, Applicant respectfully requests that the § 103(a) rejections of claims 1, 2, 7, 12, 20, and 27-30 be withdrawn, and the claims allowed.

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,631,106 (“Numata”) in view of Hashimoto and Nakane. Applicant respectfully traverses the rejection.

Claim 22 recites a recording method comprising, *inter alia*, “determining whether to perform a defect detection process on at least a portion of the recording area in which the data are recorded based on a predetermined determination criterion pertaining to recording attribute information of data.” The Office Action concedes that neither Numata nor Hashimoto disclose such a step. Office Action, at 5. The Office Action instead asserts that this step is taught by Nakane.

As discussed above with regard to claim 1, Nakane fails to teach or suggest “determining whether to perform a defect detection process,” as recited in claim 22. Therefore, for at least the reasons discussed above with regard to claim 1, the asserted combination of Numata, Hashimoto, and Nakane fails to teach or suggest the subject matter of claim 22. Accordingly, Applicant respectfully requests that the § 103(a) rejection of claim 22 be withdrawn, and the claims allowed.

Claims 23 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Numata in view of Hashimoto, and further in view of U.S. Patent No. 4,730,290 (“Takasago”) and Nakane. The rejection is respectfully traversed.

Claim 23 recites a recording method including, *inter alia*, “determining whether to perform a verification process on the portion of the recording area based on whether the size of the data is less than or equal to a threshold value.” Claim 25 recites a recording method including, *inter alia*, “determining whether to perform a verification process on the designated area based on whether the corresponding recording unit size of the portion of data is less than or equal to a threshold value.”

The Office Action concedes that Numata and Hashimoto fail to disclose “determining whether to perform a verification process” based on either the size of the data or the size of the corresponding recording unit. Yet the Office Action relies on Takasago:

Takasago discloses performing a verification process if the size of the data is less than or equal to a threshold (col. 3, lines 27-60). The first verification process (col. 3, lines 27-36) is performed if the size is less than the value of T2.

Office Action, at 6-7.

Applicant asserts that the Office Action’s interpretation of the teachings of Takasago is in error. Takasago describes:

To improve the proposed solution, the present invention involves that off-track is detected at two stages. When the duration time of an off-track signal exceeds a first time interval T₁, recording of

data in only a sector subject to off-track is stopped but a controller is not informed of the occurrence of off-track. Accordingly, in a read-after-write operation, a data to be recorded in the off-track sector is re-recorded in an alternate sector on the same track. When a large defect is present on the optical disc and the duration time of the off-track signal exceeds a second time interval T_2 , the recording operation is stopped, and the controller is informed of the occurrence of off-track.

Takasago, Col. 3, ll. 27-36 (emph. added).

In other words, Takasago describes that recording of data to an associated sector is stopped, and the controller is not informed of the occurrence of the off-track, if the off-track time is longer than T_1 but shorter than T_2 . That is, Takasago merely describes determining the processing that occurs after the detection of an error based on the duration of the error. Takasago does not teach or suggest “determining whether to perform a verification process on the portion of the recording area based on whether the size of the data is less than or equal to a threshold value,” as recited in claim 23, or “determining whether to perform a verification process on the designated area based on whether the corresponding recording unit size of the portion of data is less than or equal to a threshold value,” as recited in claim 25.

Therefore, Applicant respectfully submits that the asserted combination of references fail to teach or suggest the elements of claims 23 and 25. Accordingly, Applicant respectfully requests that the § 103(a) rejection of claims 23 and 25 be withdrawn, and the claims allowed.

Claims 3 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashimoto in view of Nakane, further in view of Takasago. Applicant respectfully traverses the rejection.

Claims 3 and 14 depend from claims 1 and 12, respectively. As discussed above, the asserted combination of Hashimoto and Nakane fail to teach or suggest the elements of claims 1 and 12. Takasago fails to remedy the deficiencies of Hashimoto and Nakane, and is not cited as such. Therefore, Applicant respectfully submits that claims 3 and 14 are allowable over the asserted references for at least the reasons discussed above with regard to claims 1 and 12, as

well as on their own merits. Accordingly, Applicant respectfully requests that the § 103(a) rejection of claims 3 and 14 be withdrawn, and the claims allowed.

Claims 8 and 21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashimoto in view of Nakane, further in view of U.S. Patent No. 7,080,296 ("Wu"). The rejection is respectfully traversed.

Claims 8 and 21 depend from claims 1 and 12, respectively. As discussed above, the asserted combination of Hashimoto and Nakane fail to teach or suggest the elements of claims 1 and 12. Wu fails to remedy the deficiencies of Hashimoto and Nakane, and is not cited as such. Therefore, Applicant respectfully submits that claims 8 and 21 are allowable over the asserted references for at least the reasons discussed above with regard to claims 1 and 12, as well as on their own merits. Accordingly, Applicant respectfully requests that the § 103(a) rejection of claims 8 and 21 be withdrawn, and the claims allowed.

In view of the above, Applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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